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ABSTRACT

*This survey examines the availability and use of computers and instructional applications of computers in public and private schools in the Canadian province of Manitoba. Of the 805 schools surveyed, 669 responded with usable data. During the 1987-88 school year, 97% of the responding schools indicated that they used computers. It was also found that there were 8,538 computers in the schools, a 21% increase over the last survey; a total of 2,261 printers in the schools, a 44% increase over the last survey; approximately 35% of the schools had modems; and word processing and student records were the most frequent administrative applications. Respondents from the 669 schools reported that 115,304 students were enrolled in "computer studies courses," and the student-to-computer ratio was calculated at approximately 24:1 for the 1987-88 school year. Schools reported spending over $2.5 million on educational technology hardware and software during the 1987-88 school year. (6 graphs) (EW)

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SUMMARY

OF THE

1987-88 SURVEY

OF

EDUCATIONAL TECHNOLOGY

IN MANITOBA

Manitoba Industry, Trade and Technology

Manitoba Education

INFOTECH MANITOBA
EDUCATIONAL TECHNOLOGY PROGRAM
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I. HIGHLIGHTS

1. RESPONDING SCHOOLS

* Of the 805 Manitoba public and private schools surveyed, 669 responded with useable data. This is an 83% response rate.

2. COMPUTER HARDWARE

* Ninety-seven percent (97%) of Manitoba schools responding to this survey, indicated that they were using computers during the 1987-88 school year.

* There were 8,538 computers in the schools at the time of the survey. This is a 21% increase over the last survey.

3. ADMINISTRATIVE APPLICATIONS

* Word processing and student records were the administrative applications most frequently reported as being used.

4. PERIPHERAL EQUIPMENT

* There were 2,621 printers in the schools. This is a 44% increase over the last survey.
* Approximately 35% of schools reported having modems.

5. COMPUTER STUDIES COURSE ENROLLMENTS

* Respondents from the 669 schools reported 115,304 students were enrolled in "computer studies courses".

6. STUDENT-TO-COMPUTER RATIO

* The student-to-computer ratio for Manitoba schools in the 1987-88 school year was calculated at approximately 24:1.

7. EXPENDITURES

* Schools reported spending over 2.5 million dollars on educational technology hardware and software during the 1987-88 school year.

II. INTRODUCTION

The Educational Technology Program (ETP) is a major component of InfoTech Manitoba, an initiative of the Manitoba government intended to support technology development and implementation within the province. ETP is a joint effort of Manitoba Education and Industry Trade and Technology whose purpose is to assist educators in the application of technology in classrooms and schools throughout Manitoba.

The InfoTech Resource Centre, located in Winnipeg, Manitoba, was established to be a vehicle for the delivery of technology-related programs. As well, it was intended to be a facility for use in demonstrating the application of technology in classrooms, offices, and places of business. A large portion of the Center is utilized by the Educational Technology Program, which focuses upon providing technology transfer to the Kindergarten to Grade 12 educators and students of Manitoba.

Survey research focusing on the use of educational technology is not new. Since the 1980-81 school year, Manitoba schools have been surveyed in order to examine trends in their acquisition and use of educational technology.

The purpose of the present survey was to:

* determine the installed base of microcomputer hardware in Manitoba schools;

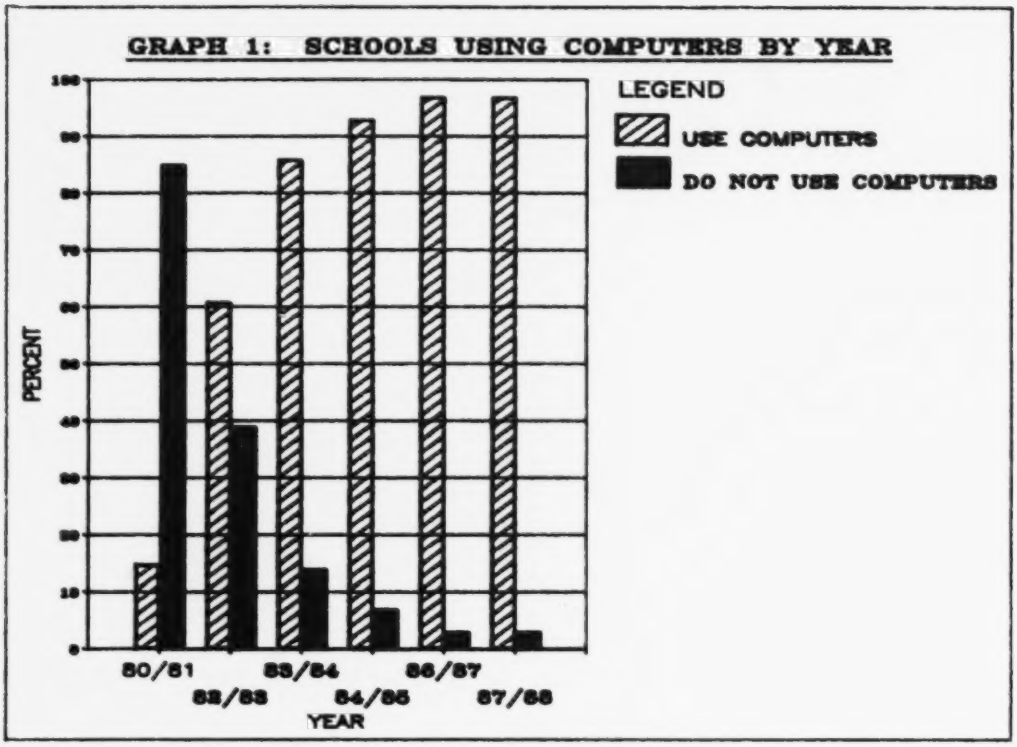
* determine the student enrollments in all K-12 educational computing courses; and

* identify the directions schools are taking in the application of instructional technology, (i.e. hardware and/or software purchases, teacher training, etc.).

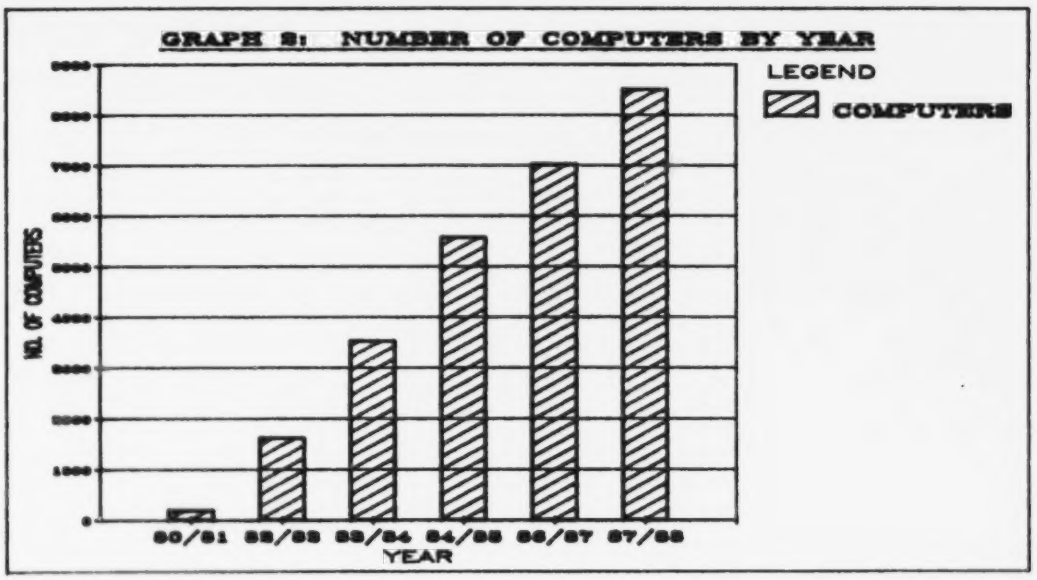
Of the 805 public and private schools surveyed, 669 responded with usable data.

III. COMPUTER HARDWARE

Ninety-seven percent (649) of the 669 schools responding to this survey indicated that they were using computers during the 1987-88 school year (Graph 1).



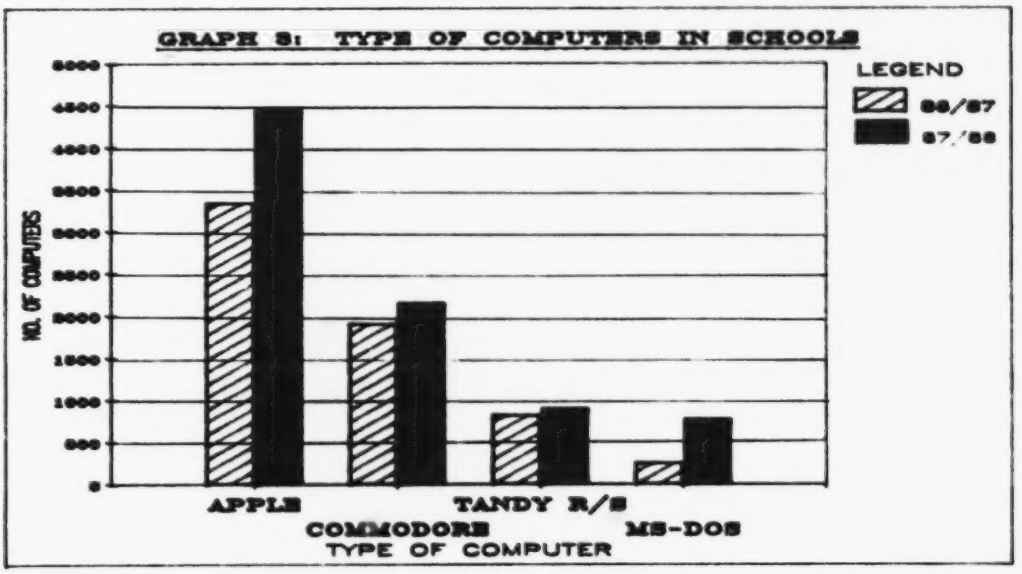
In total, there were 8,538 computers in the schools at the time of the survey representing a 21% increase over the last survey period (Graph 2).



With respect to individual totals, there were 4,455 Apple (II+, IIc, IIe, IIgs, MacIntosh); 2,157 Commodore (PET, C64, C128, PC10); 909 Tandy (Model III, IV, Tandy 1000, 1200, 3000); 782 MS-DOS (228 IBM, 219 Tandy, 271 Commodore, 23 Unisys-Sperry, 41 other MS-DOS); (Note that Commodore PC10 and Tandy 1000, 1200, 3000 are counted also in the MS-DOS total).

*Note: There were 766 "other" computers, including Commodore VIC-20, Franklin ACE, etc.

Graph 3 represents the above figures.



IV. ADMINISTRATIVE APPLICATIONS

There was an increase in the number of schools reporting the use of microcomputers for administrative purposes.

Word processing (394 schools) and student records (308 schools) were the administrative applications most often reported as being used. Schools most frequently reported using AppleWorks software for these applications.

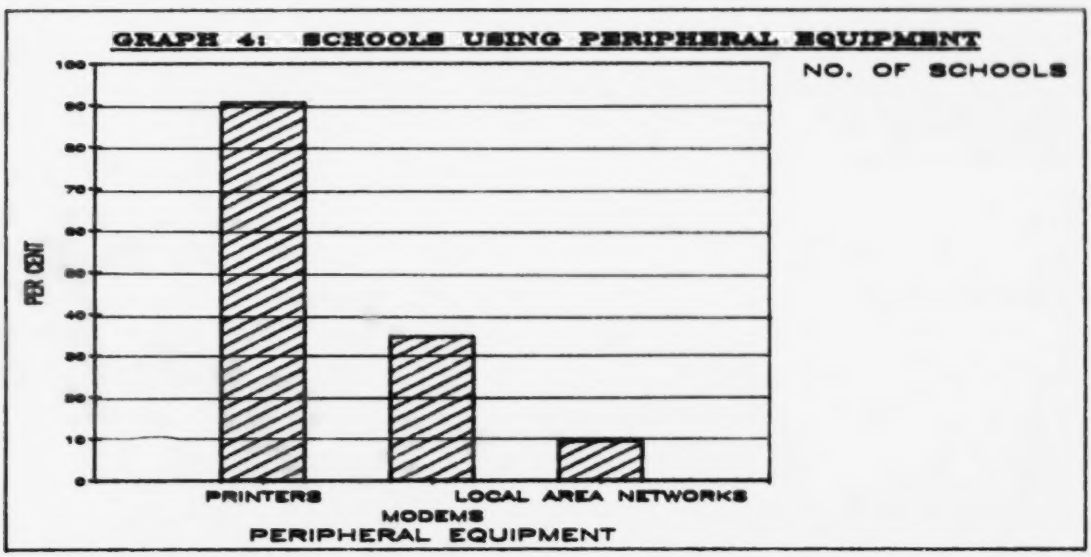
V. PERIPHERAL EQUIPMENT

Printers: Overall, 609 schools reported having 2,621 printers. This represents a 44% increase in one year.

It was found that schools most frequently mentioned the following printers: Epson (286 schools); Apple (129 schools); Panasonic (119 schools); and Commodore (105 schools).

Modems: Two hundred and thirty-one (231) schools reported having modems as compared to 135 schools in the last survey. There were 333 modems reported, an increase of 176 (112%) in the past year. The most frequently mentioned modem was General Data Com (44 schools), followed by Avatex (22 schools).

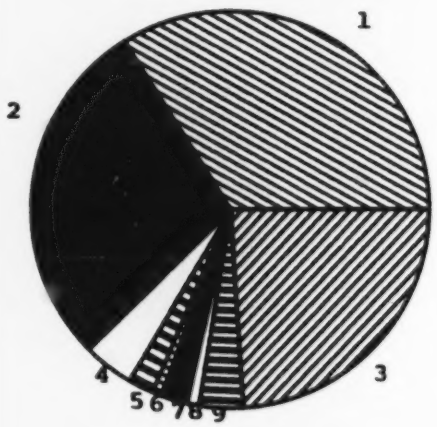
Local-Area Networks: Sixty-five (65) schools indicated that they had local-area networks. There were 77 local-area networks reported by those schools.



VI. COMPUTER STUDIES COURSE ENROLLMENTS

In total, 669 schools reported that there were 115,304 students enrolled in computer related courses at the time of the survey. This represents an increase of approximately 5,000 students since the time of the last survey. The largest group of student enrollments was found in computer awareness courses at the K-3 level (Graph 5).

GRAPH 5: COMPUTER STUDIES COURSE ENROLLMENTS



LEGEND

1	K-3 COMPUTER AWARENESS	38037	(33.9%)
2	4-6 COMPUTER AWARENESS	32898	(28.5%)
4	COMPUTER AWARENESS 105	4766	(4.1%)
5	DATA PROCESSING 202	2361	(2.0%)
6	DATA PROCESSING 302	904	(0.8%)
7	COMPUTER SCIENCE 205	2469	(2.1%)
8	COMPUTER SCIENCE 305	1105	(1.0%)
9	OTHER COMPUTER COURSES	4108	(3.6%)
3	7-9 COMPUTER AWARENESS	27666	(24.0%)

TOTAL 115,304 (100%)

VII. STUDENT-TO-COMPUTER RATIO

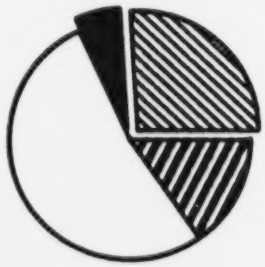
At the time of the 1987-88 survey, the Province of Manitoba had approximately 200,000 students and over 8,500 computing units within K-12 schools. Therefore, the overall student-to-computer ratio is calculated at approximately 24:1. This ratio should not be interpreted to mean that 24 "real" students attempt to share each computer in Manitoba but rather that as an overall statement of computer saturation, the provincial ratio can be expressed in this way.

VIII. EXPENDITURES

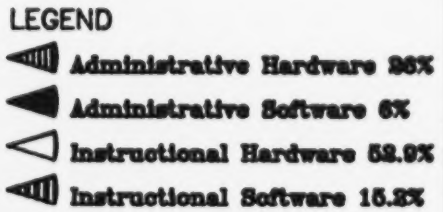
Schools reported spending over two and a half million dollars on educational technology hardware and software during the 1987-88 school year.

Administrative Hardware	$695,346.00
Administrative Software	$159,666.00
Instructional Hardware	$1,415,907.00
Instructional Software	$406,754.00
TOTAL	$2,677,673.00

GRAPH 6: EXPENDITURES



TOTAL 2,677,673.00 (100%)
Dollars



IX. COMMENTS

Comments most frequently made concerning educational technology were:

* Computer use is integrated into subject areas.
* Planning to increase administrative use of computers.
* Planning to increase both computer courses offered and student use of computers.
* Planning to increase/update number of computers.
* Need more computers.
* Students using computers as tools (word processing, etc.).
* Have a computer lab set-up.
* Need more professional development in application of educational technology.